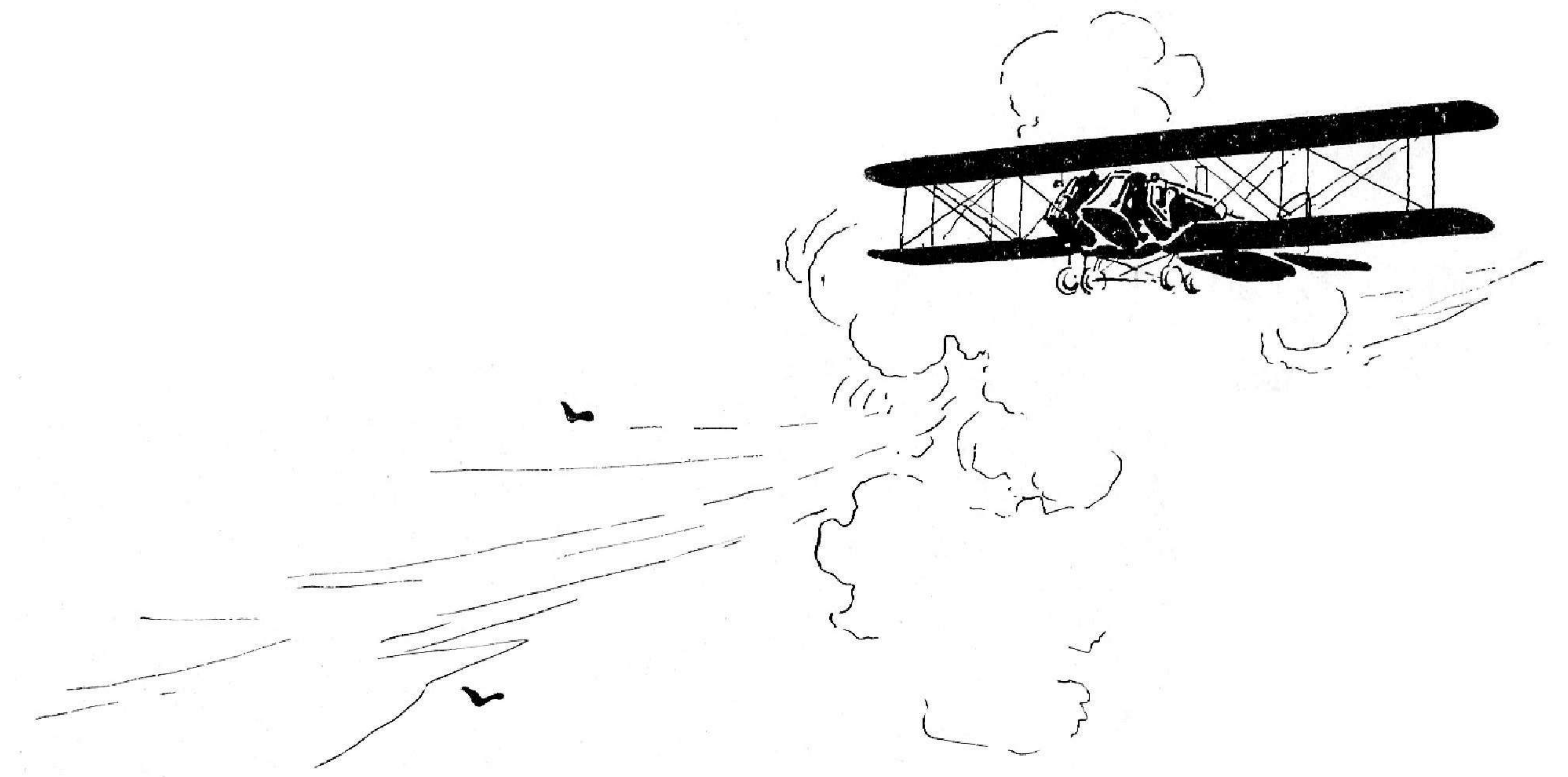


BUFFALO & NIAGARA FRONTIER
from THE AIR





BUFFALO'S Civic Center site, looking east above McKinley Memorial Monument in Niagara Square. The new Statler Hotel at left and the new Buffalo Athletic Club at right are the first two of the great group of notable

buildings to front here. The radiating traffic thoroughfares seen above, result from early planning by Joseph Ellicott, the city's architect, over one hundred years ago. Lafayette Square at right center.

BUFFALO & NIAGARA FRONTIER

from THE AIR

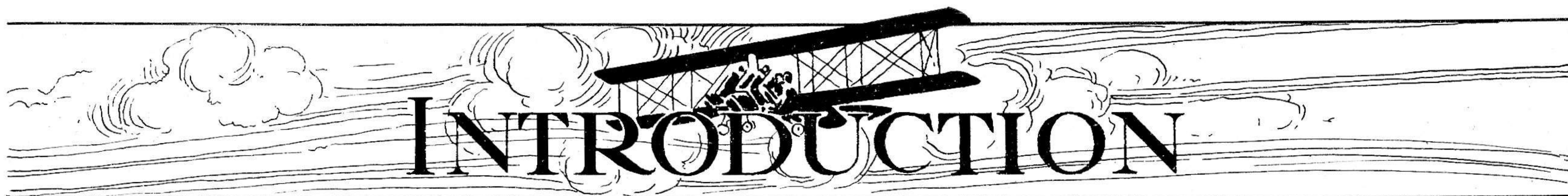


Published by
RONNE & WASHBURN
Aerial Photographers
BUFFALO, N.Y.



NIAGARA FALLS, the scenic wonder of America. Directly above Goat Island, in the center, up-stream in the haze and mist rising from the Niagara River, almost due south, lies Buffalo. From here, a beautiful riverside

boulevard connects down the Canadian side all the way. Portion of Victoria Park at right and in foreground. International Bridge at lower left connects with American Boulevard back to Buffalo.



MILLIONS of people have seen Niagara. But never until now has it been possible to see it in its entirety as you behold it in these pictures—through the eyes of the aerial photograph.

Imagine, for the moment, yourself three thousand feet above the Canadian border and there glimpsing for a breathless second the marvelous view now spreading before you at your left.

Here you grasp it all! As a perfect setting on a mighty stage,—for the first time you see Niagara a complete thing. You study it. You seem at last to understand it. You now get the true relations of the broad river above, the upper rapids, the divided stream at Goat Island, the two cataracts, the chasm below, the turbulent river rushing through it.

How strange it makes you feel. A new sensation comes over you. Though you are traveling like the wind you realize that this view is the first you have ever had of Niagara Falls that did not awe you. You have dwarfed it! On the wings of the air you have risen to a height where its might is shorn of its impress of titanic force.

—Until your 'plane swerves. Drops to a low level. Races up the Gorge. The mist strikes your face. The pounding roar of thousands of tons of falling water drowns the voice of your own engine. You rise sharply. Like a flash—you get the view shown on page 19.

Then you know it is Niagara still—in all the tremendous strength of its vast and rugged elemental power.

And so, as though you, yourself were flying through the upper air, these pictures unfold the setting of the Niagara borderland as no other means could suggest it.

From Buffalo, on Lake Erie, to Fort Niagara on Lake Ontario, the Niagara River divides the State of New York

from the Province of Ontario for a winding distance of thirty-one miles, constituting the Niagara Frontier.

This river is navigable for sixteen miles down from Lake Erie, to Chippawa, and for six miles above its mouth at Lake Ontario to Lewiston. The intervening nine miles between Chippawa and Lewiston is a succession of rapids and includes the Falls.

A total drop of 336 feet takes place between the level of Lake Erie and that of Lake Ontario. The Horseshoe Falls, with a crest line of one-half mile in length, drop 155 feet at the brink. The American Falls, 1,400 feet wide, drop 162 feet and are formed from a passage of less than one-tenth of the total water of the river.

At the average stage of flow, 220,000 cubic feet of water a second passes over Niagara, more than nine-tenths of this going over the Horseshoe Falls and by far the greater part of this rushing to the middle of the Horseshoe curve thus causing the greatest wearing away of the edge to occur at this place. In 1764 this point of the brink was 955 feet farther down stream than at present, showing the rate of recession to be very appreciable every year. As to the total age of Niagara, geologists vary in their conjectures but it is calculated that it was at least 25,000 years ago that the Falls were nine miles down stream, at the Niagara Escarpment above Lewiston.

The grandeur of the Falls of this River have held the mind of man in awe for centuries, yet now the increasing marvels of the gigantic power these afford are adding new wonders to this favored section without detracting from the beauty of the spectacle that this winding Niagara and its cataracts present. And these wonders are doing much to lighten the work and brighten the way of the communities on both sides of that imaginary line that is called the international boundary.

NOTE—Location of all pictures indicated on map on page 23.



RIVER meets Lake here. Mouth of Buffalo River at left emptying into Lake Erie whose outlet, Niagara River, is seen leading off above toward the Falls. Ship Canal at left. Washburn-Crosby Company Mills in foreground.

Lackawanna and Erie Terminals at lower end of city across river. Excursion steamer docks foot of Main Street in left center. Michigan Street bridge and Spencer Kellogg & Sons Mills, at lower right.



HARBOR entrance through which the Lake freighters move east and west carrying greater tonnage than that handled at any other port in this hemisphere, save only those of New York City and Duluth-Superior. Erie basin,

Barge Canal Terminal and Inner Harbor above, portion of Outer Harbor beyond, Lake Erie, beyond the further lighthouse, in distance. Erie Beach (Canada) dock and corner of grounds in extreme upper right corner.



CANAL BOATS at lower left, have come up the Hudson River from New York, through the state Barge Canal—an engineering project rivaling in many respects that at Panama—to Buffalo terminal. This view is north from the

wharves of the water front. Up Delaware Avenue past the civic center site. On this tree-lined street, near top of picture, stands house in which Theodore Roosevelt became President of United States.



MAIN STREET, due north from Exchange Street, across the business center of the city. The Terrace Station of the New York Central Railroad, in lower left corner. All of the principal buildings of the down town section, includ-

ing Federal Building at right, here in view. Lower Delaware Avenue, civic center site, seen at upper left. Terrace Station of Michigan Central Railroad (line to Niagara Falls) at lower left.



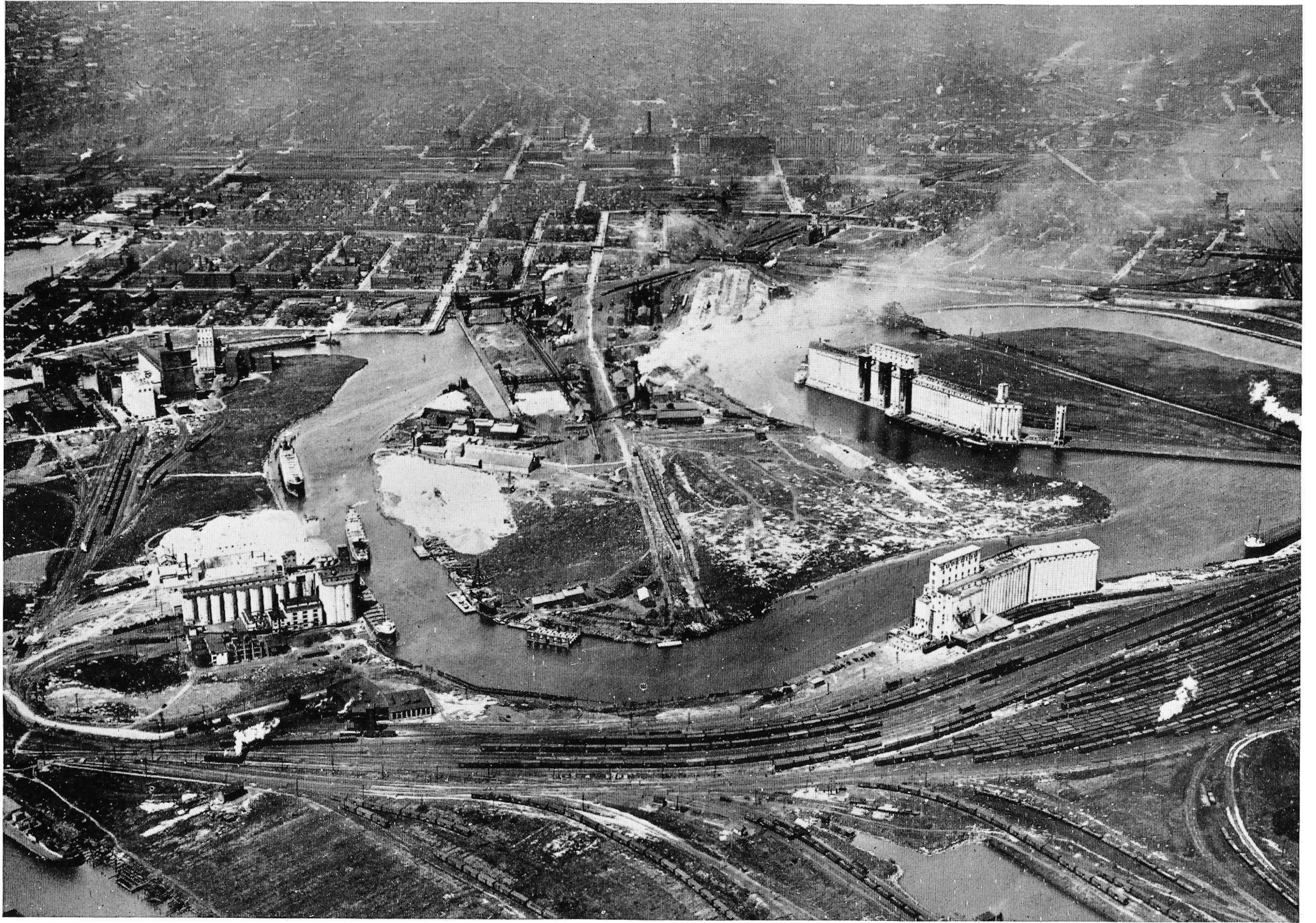
HOTEL STATLER, facing Delaware Avenue at Niagara Square, with its new six-story garage building diagonally opposite in foreground. Southeast on Niagara Street, crossing civic center site, McKinley Monument, toward

Shelton Square and the Ellicott Square building. Federal Building, with tower, in center of picture at top. Marine Trust Company building surmounts the skyline in the right distance.



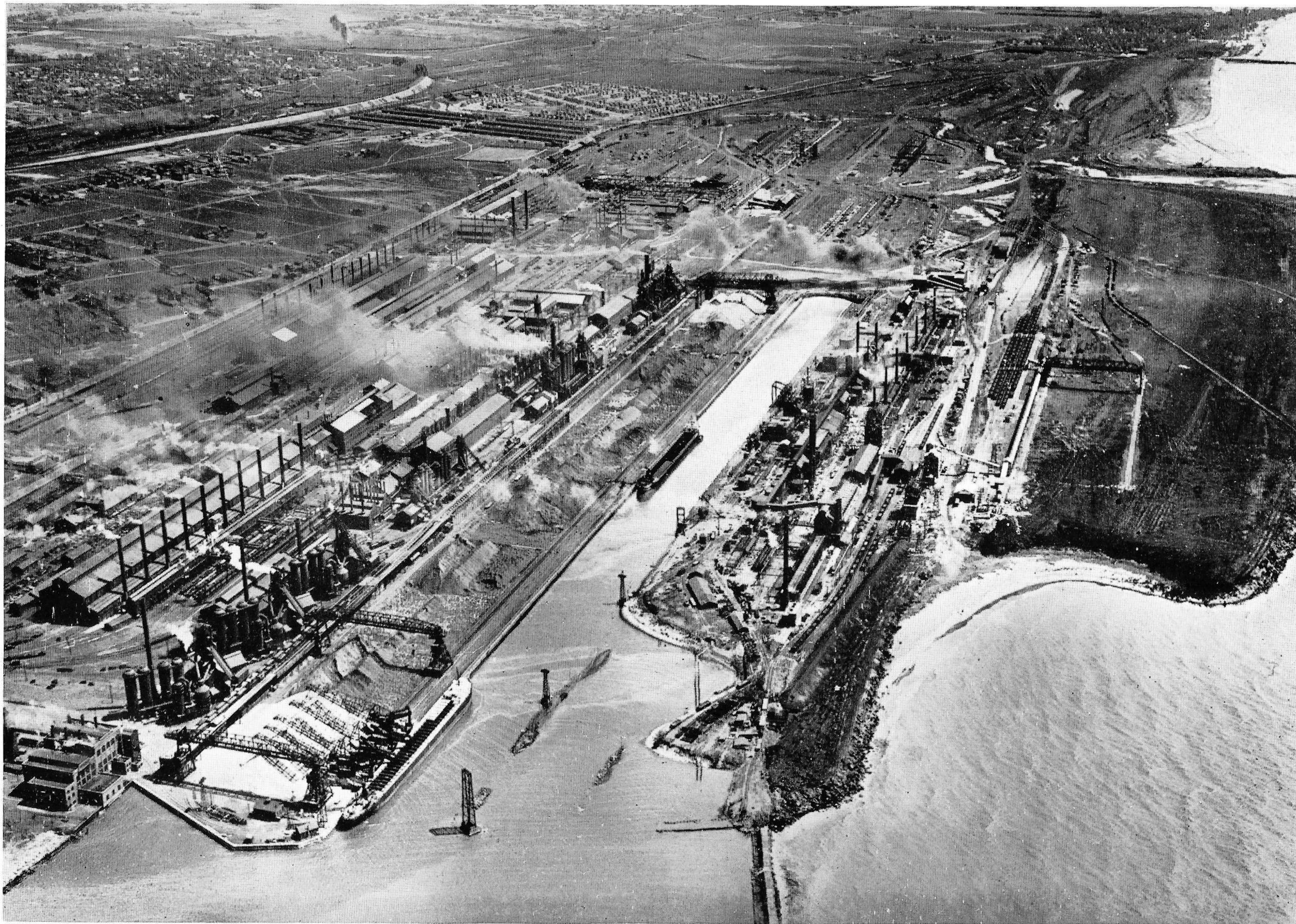
Larkin Co Inc. For fifty years the home of the Larkin "Factory-to-Family" idea. Produce a greater variety of merchandise than any other manufacturer in Buffalo. A trip thru this daylight plant equipped

with the most modern machinery is an education. Visitors always welcome. The building at the right is one of the finest and most complete warehouses in the country. Fully equipped for storage and shipping.



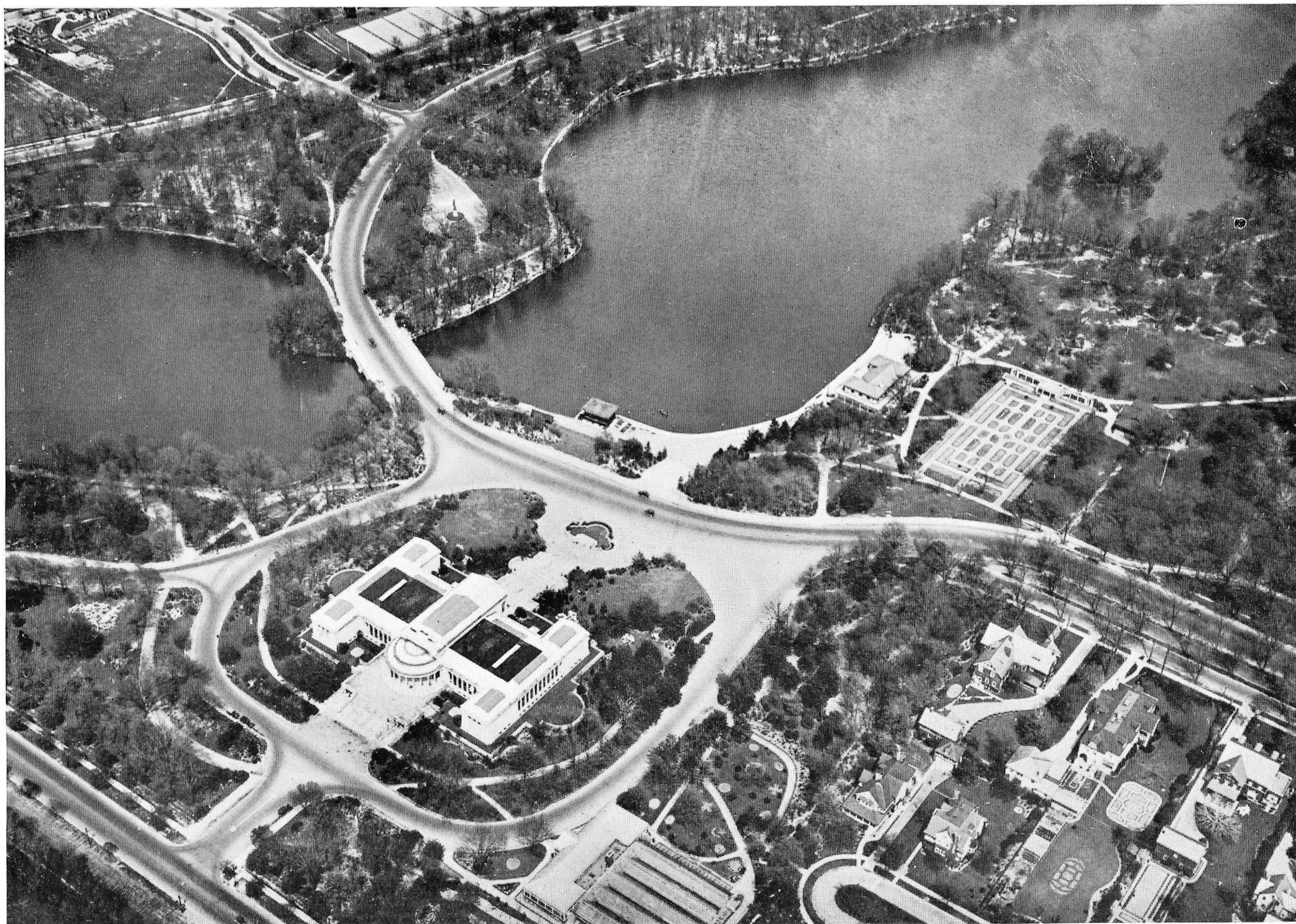
GRAIN has long flowed down the great Lakes into Buffalo. On this bend in the Buffalo River above are three great new Elevators, the "Central-Concrete" above right center, being one of the largest grain elevators in the

world (4,500,000 bu. capacity). Great lake freighters dot the river. Railroad yards around edges. Eastern section of Buffalo above. Down town portion of city is in direction of upper left corner of picture.



STEEL has found Buffalo a most economical point between the iron ore of the upper Lakes and the coal fields of Pennsylvania. The great mills of the Bethlehem Steel Company here have their own Lake frontage, inner harbor

and Railroad Terminals. Power lines from Niagara Falls enter this vast tract at rear. New housing development, along Lake Shore Road, above center. Automobile route to Cleveland, along lake at upper right.



DELAWARE PARK section, northeast across Park Lake. Conservatory at bottom, center. Albright Art Gallery just above, left. Beyond the beautiful residences and across Lincoln Parkway, at right, the formal rose gardens and

the Casino fronting the lake. Park Club above, left. This was a portion of the site of the Pan-American Exposition and is within short distance, by Elmwood cars, lower left, or motor car, from down town.



BARGE CANAL, passing from Niagara River inlet at left, eastward on its way across the state. North Tonawanda with its large lumber yards at left; Tonawanda with its several nationally-known industries at right.

Portion of old Erie Canal, lower center, being filled in. Ellicott Creek leading off to right. Roads to Buffalo, right; to Niagara Falls, left. This point where canal connects with Niagara River is about six miles above Falls.



NIAGARA RIVER, in foreground, just above the Falls showing the intake canal and reserve power houses of the Niagara Falls Power Company where water drops to the turbines directly below these buildings and is discharged

through underground tunnel below Falls. River Road, to Buffalo passes just back of these. Looking northeast, beyond, over a section of the city of Niagara Falls, N. Y. (These were the first Niagara power houses.)



POWER, from Niagara, is one of the greatest assets of Buffalo and the Niagara Frontier. In this main plant of the Niagara Falls Power Company, on the American side, are generating units of 450,000 h. p. installed capacity.

The water, supplying this station, is led from above the Falls, both through canal shown leading off to right rear and an underground tunnel, opened in 1923. In this plant are installed the largest hydro-electric units in the world.



AMERICAN FALLS, and the rapids above. Intake and up-stream (reserve) plant of Niagara Falls Power Company beyond. Looking northeast, at left, over city of Niagara Falls, N. Y. Prospect Park, left center. Maid of

Mist landing, on lower river, at extreme left. Portion of Goat Island at right with foot and auto bridge connecting it with American shore. The Canadian or Horseshoe Falls are at the right, out of picture.



HORSESHOE FALLS, from airplane but 200 feet above the brink. (The erosion of the water here in the center of the Horseshoe is eating this away at a rate of about six feet per year.) Looking south toward the Canadian side. Up-

stream plant of Ontario Power Commission on bank at upper left; Canadian Plant of the American generating system at right. Canadian Boulevard leads off up Niagara River toward Buffalo at extreme top left corner.



THE CHASM, cut out, through the centuries, by the great falls. Looking north from the Canadian side. Horseshoe Falls at lower center, American Falls beyond, Goat Island between. Practically entire city of Niagara Falls,

N. Y. in upper view. International Bridge at left. Power House outlets on river below. Small section of Victoria Park, lower left. The turbulent rapids of the lower river are beyond the bend at the left.



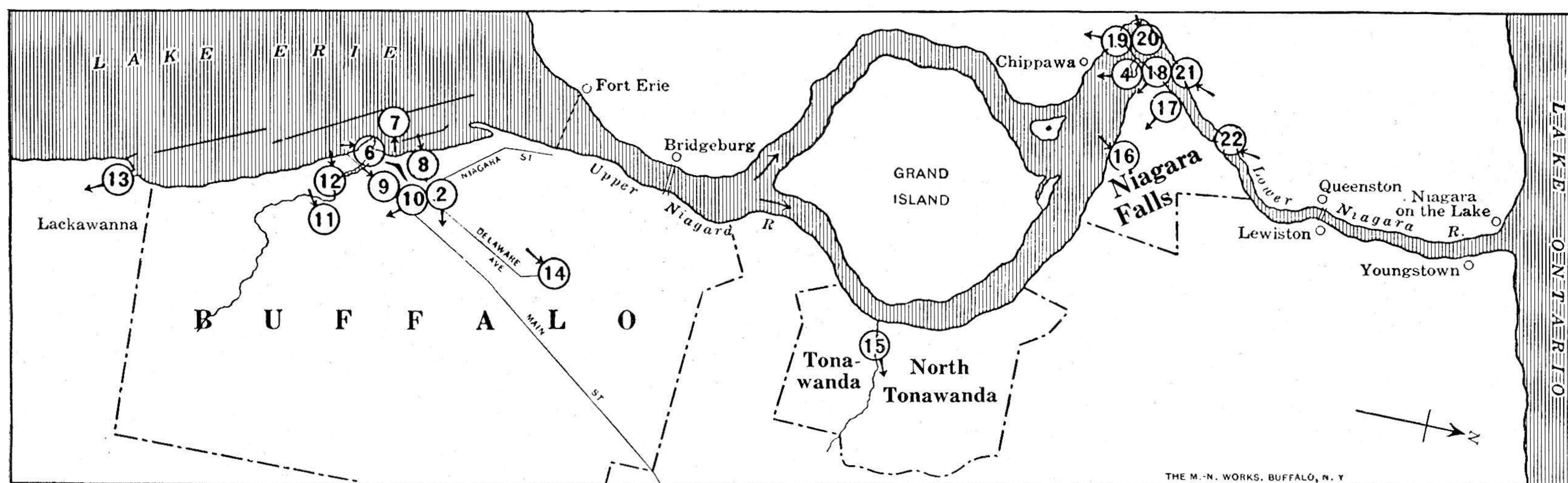
UP-STREAM, looking southeast, from one mile below the Falls. Portion of city of Niagara Falls, Ont. at right. Canadian Boulevard along river. Chippawa Power Canal leads off to right in mid-distance. The upper rapids,

on both sides of Goat Island are here seen complete. International Bridge in center. Corner of Niagara Falls, N. Y., left, with the lower power houses of the Niagara Falls Power Company on river bank below.



THE GORGE, below the Falls. Whirlpool at lower right. Outlet towards Lake Ontario at lower left. The Gorge Route Railroad, along the edge of the river, seen at left. Aerial cable tramway over whirlpool passes from

point in lower center, directly opposite. The constant churn of the lower rapids a striking contrast to the dark green of the banks. Bridges and Falls, up-stream, beyond, with broad upper river leading off to left.



Figures, in Circles, in this Map of the Niagara Frontier, Refer to Page Numbers and Arrows Indicate Location and Direction from which Corresponding Picture was Taken

BUFFALO, at the source of the Niagara River, is the great gateway of commerce at the Frontier that this forms. East and West, the movement of commodities across the continent has long made clear that by nature a city located at this point is of necessity to be one of the first commercial importance. Increasingly, too, the North and South flow of raw materials and fabricated articles, makes Buffalo's location one of rich geographical significance.

As a port, its location at the eastern end of the Great Lakes, gives it a commanding position in the commerce of this vast inland water system. With 37.4 miles of water frontage, more than 10,000 boats have arrived and departed from Buffalo docks in a single year.

As the terminus of the New York State Barge Canal System, Buffalo is afforded a water route to the Hudson River, and thence, to the port of New York, that is unique in the transportation facilities of this country. The completion of this gigantic engineering project makes it possible for 300-ft. barges, 42 ft. wide, with a carrying capacity of 2,000 tons each, to traverse, under steam power, this waterway to the Atlantic seaboard.

Yet, added to these advantages for water transportation, are Buffalo's outstanding railroad facilities. Necessarily, the water-borne commerce of her port necessitate correspondingly adequate rail terminals which she has in proportion. Again due to natural location, great trunk line railroads of themselves converge here, making this point on the Niagara Frontier one of the notable railroad centers of the entire world.

With these transportation outlets Buffalo has the means at hand to distribute its products to a larger market territory, within a 500 mile radius, than that centering in any other American city.

And so with resulting economy of distribution assured, Buffalo's growth as an industrial center has added steadily to its natural commercial importance.

Here again as a center of production, its location has favored the "Queen City of the Lakes" in a bountiful way. With great basic raw materials at its door, in the undeveloped Canadian country, up the Great Lakes and south in Pennsylvania, Buffalo has in Niagara Falls an unequalled and perpetual source of constant and cheap hydro-electric power to drive its industries.

These fundamentals, as here backed up by varied agriculture in the surrounding country and with favorable labor conditions in the city itself, have resulted in four basic industries developing in Buffalo—steel, lumber, rubber, grain.

This fact has contributed to the growth of a wide diversity of other industries in the city. Indeed more than 60% of the 356 classifications listed by the U. S. Census of Manufacturers, are represented here.

Of particular interest to the subject of this book is the fact that Buffalo is the leading production center in the United States, of aircraft material, including among others, the Curtiss Aeroplane and Motor Co. plant, and that of the Irving Air Chute Co., in which is made all parachutes used by the United States Government for its heavier than air craft.



NOT long ago aerial photographs were the uncertain results of tiresome efforts with camera-equipped kites. Now they are matters of the beautiful perfection shown in this book.

Man's acquired skill in the air and his improvements in the art of picture making have made such photographs possible to the skilled and experienced aerial operator.

Edwin M. Ronne, at left, has been an active pilot for seven years. A First Lieutenant in the U. S. Army Air Service during the war, he is at home in every type of air craft.

Milton J. Washburn, at right, a photographer of twenty

years' experience, the last five years being devoted to air-plane photography, has recently invented a new type of camera especially designed for making oblique views from an aeroplane. Most of these he times at 1/300th of a second even when flying at 100 miles per hour, the speed of their Curtiss plane.

From this completely equipped ship all kinds of aerial photography is done. Map views are taken through an opening in the bottom of the fuselage while angle or oblique views are all made over the side from the front cockpit.

With an unusually large cruising radius of approximately 700 miles, this plane can be taken to Chicago or New York on one hop without stopping for gasoline.

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OFFICES

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• Curtiss Flying Field

BUFFALO, N. Y.

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Elma New York USA

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